



Analytical Laboratory

Analytical Laboratory
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13339 Hagers Ferry Road
Huntersville, NC 28078-7929
McGuire Nuclear Complex - MG03A2
Phone: 980-875-5245 Fax: 980-875-4349

Order Summary Report

Order Number: J10090188

Project Name: FGD - Test Burn Daily

Customer Name(s): Don Scruggs, Robbin Jolly, Ray Lidke, Bill Kennedy

Customer Address: 253 Plant Allen Road

Belmont, NC 28012

Lab Contact: Jason C Perkins

Phone: 980-875-5348

Report Authorized By:
(Signature)

Date: 11/12/2010

Program Comments:

Sampled 10/7/2010

Data Flags & Calculations:

Any analytical tests or individual analytes within a test flagged with an "X" or "1" indicate a deviation from the method quality system or quality control requirement. All results are reported on a dry weight basis unless otherwise noted.

Data Package:

This data package includes analytical results that are applicable only to the samples described in this narrative. An estimation of the uncertainty of measurement for the results in the report is available upon request. This report shall not be reproduced, except in full, without the written consent of the Analytical Laboratory. Please contact the Analytical laboratory with any questions. The order of individual sections within this report is as follows:

Job Summary Report, Sample Identification, Technical Validation of Data Package, Analytical Laboratory Certificate of Analysis, Analytical Laboratory QC Reports, Sub-contracted Laboratory Results, Customer Specific Data Sheets, Reports & Documentation, Customer Database Entries, Test Case Narratives, Chain of Custody (COC)

Certification:

The Analytical Laboratory holds the following State Certifications : North Carolina (DENR) Certificate #248, South Carolina (DHEC) Laboratory ID # 99005. Contact the Analytical Laboratory for definitive information about the certification status of specific methods.

Sample ID's & Descriptions:

Sample ID	Plant/Station	Collection Date and Time	Collected By	Sample Description
2010008581	ALLEN	07-Oct-10 10:10 AM	Chris Williams	FGD Purge Eff
2010008595	ALLEN	07-Oct-10 2:05 PM	Chris Williams	EQ Tank Eff
2010008596	ALLEN	07-Oct-10 2:12 PM	Chris Williams	BioReactor 1 Inf
2010008597	ALLEN	07-Oct-10 2:14 PM	Chris Williams	BioReactor 2 Inf
2010008598	ALLEN	07-Oct-10 2:09 PM	Chris Williams	BioReactor 2 Eff
2010008599	ALLEN	30-Sep-10 10:50 AM	L. Davis	Filter Blk
2010008600	ALLEN	30-Sep-10 10:50 AM	L. Davis	Metals Trip Blank
7 Total Samples				

Technical Validation Review

Checklist:

COC and .pdf report are in agreement with sample totals and analyses (compliance programs and procedures).

☒ Yes

☐ No

All Results are less than the laboratory reporting limits.

☐ Yes

☒ No

All laboratory QA/QC requirements are acceptable.

☒ Yes

☐ No

The Vendor Laboratories have been qualified by the Analytical Laboratory

Yes

Report Sections Included:

☒ Job Summary Report

☒ Sample Identification

☒ Technical Validation of Data Package

☒ Analytical Laboratory Certificate of Analysis

☐ Analytical Laboratory QC Report

☒ Sub-contracted Laboratory Results

☐ Customer Specific Data Sheets, Reports, & Documentation

☐ Customer Database Entries

☐ Test Case Narratives

☒ Chain of Custody

☐ Electronic Data Deliverable (EDD) Sent Separately

Reviewed By: Jenny A Herman

Date: 11/12/2010

Certificate of Laboratory Analysis*This report shall not be reproduced, except in full.***Order # J10090188**

Site: FGD Purge Eff

Collection Date: 07-Oct-10 10:10 AM

Sample #: 2010008581

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	41.5	ug/L		2.5	EPA 245.1	18-Oct-10 10:54	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	155	mg/L		0.5	EPA 200.7	18-Oct-10 12:49	MHH7131
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	374	ug/L		5	EPA 200.8	19-Oct-10 12:45	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	135	ug/L		10	EPA 200.8	29-Oct-10 12:49	KRICHAR
Chromium (Cr)	139	ug/L		10	EPA 200.8	29-Oct-10 12:49	KRICHAR
Copper (Cu)	156	ug/L		10	EPA 200.8	29-Oct-10 12:49	KRICHAR
Nickel (Ni)	271	ug/L		10	EPA 200.8	29-Oct-10 12:49	KRICHAR
Selenium (Se)	895	ug/L		10	EPA 200.8	29-Oct-10 12:49	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:49	KRICHAR
Zinc (Zn)	439	ug/L		20	EPA 200.8	29-Oct-10 12:49	KRICHAR
<u>TOTAL DISSOLVED SOLIDS</u>							
Vendor Parameter	Complete				V_PRISM		

Site: EQ Tank Eff

Collection Date: 07-Oct-10 2:05 PM

Sample #: 2010008595

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	26.2	ug/L		2.5	EPA 245.1	18-Oct-10 10:56	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	109	mg/L		0.5	EPA 200.7	18-Oct-10 12:53	MHH7131
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	433	ug/L		5	EPA 200.8	19-Oct-10 12:49	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	82.2	ug/L		10	EPA 200.8	29-Oct-10 12:53	KRICHAR
Chromium (Cr)	80.2	ug/L		10	EPA 200.8	29-Oct-10 12:53	KRICHAR
Copper (Cu)	91.0	ug/L		10	EPA 200.8	29-Oct-10 12:53	KRICHAR
Nickel (Ni)	158	ug/L		10	EPA 200.8	29-Oct-10 12:53	KRICHAR
Selenium (Se)	748	ug/L		10	EPA 200.8	29-Oct-10 12:53	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:53	KRICHAR
Zinc (Zn)	252	ug/L		20	EPA 200.8	29-Oct-10 12:53	KRICHAR

Certificate of Laboratory Analysis

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Order # J10090188

Site: BioReactor 1 Inf
Collection Date: 07-Oct-10 2:12 PM

Sample #: 2010008596
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	76.4	mg/L		0.5	EPA 200.7	18-Oct-10 12:57	MHH7131
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	658	ug/L		5	EPA 200.8	19-Oct-10 12:52	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:58	KRICHAR
Chromium (Cr)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:58	KRICHAR
Copper (Cu)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:58	KRICHAR
Nickel (Ni)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:58	KRICHAR
Selenium (Se)	719	ug/L		10	EPA 200.8	29-Oct-10 12:58	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:58	KRICHAR
Zinc (Zn)	< 20	ug/L		20	EPA 200.8	29-Oct-10 12:58	KRICHAR

Site: BioReactor 2 Inf
Collection Date: 07-Oct-10 2:14 PM

Sample #: 2010008597
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	66.5	mg/L		0.5	EPA 200.7	18-Oct-10 13:01	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	29-Oct-10 13:03	KRICHAR
Chromium (Cr)	< 10	ug/L		10	EPA 200.8	29-Oct-10 13:03	KRICHAR
Copper (Cu)	< 10	ug/L		10	EPA 200.8	29-Oct-10 13:03	KRICHAR
Nickel (Ni)	< 10	ug/L		10	EPA 200.8	29-Oct-10 13:03	KRICHAR
Selenium (Se)	42.0	ug/L		10	EPA 200.8	29-Oct-10 13:03	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 13:03	KRICHAR
Zinc (Zn)	< 20	ug/L		20	EPA 200.8	29-Oct-10 13:03	KRICHAR

Site: BioReactor 2 Eff
Collection Date: 07-Oct-10 2:09 PM

Sample #: 2010008598
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	< 1	ug/L		1	EPA 245.1	18-Oct-10 10:59	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	68.1	mg/L		0.5	EPA 200.7	18-Oct-10 13:05	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	29-Oct-10 13:08	KRICHAR

Certificate of Laboratory Analysis

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Order # J10090188

Chromium (Cr)	< 10	ug/L	10	EPA 200.8	29-Oct-10 13:08	KRICHAR
Copper (Cu)	< 10	ug/L	10	EPA 200.8	29-Oct-10 13:08	KRICHAR
Nickel (Ni)	< 10	ug/L	10	EPA 200.8	29-Oct-10 13:08	KRICHAR
Selenium (Se)	< 10	ug/L	10	EPA 200.8	29-Oct-10 13:08	KRICHAR
Silver (Ag)	< 10	ug/L	10	EPA 200.8	29-Oct-10 13:08	KRICHAR
Zinc (Zn)	< 20	ug/L	20	EPA 200.8	29-Oct-10 13:08	KRICHAR

Site: Filter Blk

Collection Date: 30-Sep-10 10:50 AM

Sample #: 2010008599

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	< 1	ug/L		1	EPA 200.8	19-Oct-10 12:56	KRICHAR

Site: Metals Trip Blank

Collection Date: 30-Sep-10 10:50 AM

Sample #: 2010008600

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	< 0.05	mg/L		0.05	EPA 200.7	18-Oct-10 11:23	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 1	ug/L		1	EPA 200.8	29-Oct-10 13:24	KRICHAR
Chromium (Cr)	< 1	ug/L		1	EPA 200.8	29-Oct-10 13:24	KRICHAR
Copper (Cu)	< 1	ug/L		1	EPA 200.8	29-Oct-10 13:24	KRICHAR
Nickel (Ni)	< 1	ug/L		1	EPA 200.8	29-Oct-10 13:24	KRICHAR
Selenium (Se)	< 1	ug/L		1	EPA 200.8	29-Oct-10 13:24	KRICHAR
Silver (Ag)	< 1	ug/L		1	EPA 200.8	29-Oct-10 13:24	KRICHAR
Zinc (Zn)	< 2	ug/L		2	EPA 200.8	29-Oct-10 13:24	KRICHAR



Full-Service Analytical &
Environmental Solutions

NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert No. 37735

Analytical Laboratory
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Case Narrative

10/19/2010

Duke Energy Corporation
Jay Perkins
13339 Hagers Ferry Road
Huntersville, NC 28078

Project: Allen - FGD Alternative Fuels Test Burn #1 Daily
Project No.: J10090188
Lab Submittal Date: 10/08/2010
Prism Work Order: 0100307

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Please call if you have any questions relating to this analytical report.

Respectfully,

PRISM LABORATORIES, INC.

VP Laboratory Services

Reviewed By

Data Qualifiers Key Reference:

BRL	Below Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
*	Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
2010008581/FGD Purge EFF	0100307-01	Water	10/07/10	10/08/10

Samples received in good condition at 1.3 degrees C unless otherwise noted.



Duke Energy Corporation
Attn: Jay Perkins
13339 Hagers Ferry Road
Huntersville, NC 28078

Project: Allen - FGD Alternative Fuels
Test Burn #1 Daily
Project No.: J10090188
Sample Matrix: Water

Client Sample ID: 2010008581/FGD Purge E
Prism Sample ID: 0100307-01
Prism Work Order: 0100307
Time Collected: 10/07/10 10:10
Time Submitted: 10/08/10 15:20

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
Total Dissolved Solids	8500	mg/L	50	8.7	1	*SM2540 C	10/13/10 13:15	JAB	P0J0269



Duke Energy Corporation
Attn: Jay Perkins
13339 Hagers Ferry Road
Huntersville, NC 28078

Project: Allen - FGD Alternative Fuels
Test Burn #1 Daily
Project No: J10090188

Prism Work Order: 0100307
Time Submitted: 10/8/10 3:20:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0J0269 - NO PREP										
Blank (P0J0269-BLK1)				Prepared & Analyzed: 10/13/10						
Total Dissolved Solids	BRL	50	mg/L							
LCS (P0J0269-BS1)				Prepared & Analyzed: 10/13/10						
Total Dissolved Solids	984	50	mg/L	1000		98	90-110			

Sample Extraction Data

NO PREP				
Lab Number	Batch	Initial	Final	Date
0100307-01	P0J0269	50 mL	50 mL	10/13/10



Duke Energy Analytical Laboratory

Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-4349

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Analytical Laboratory Use Only

ORDER# J10090188

MATRIX: OTHER

Samples Originating From

NC

SC

GROUND

Drinking Water

UST

RCRA Waste

19 Page 1 of 2

DISTRIBUTION

ORIGINAL TO LAB,

COPY TO CLIENT

Vendor: PRISM

PO# ISW01.1913

Preserv: 1-HCL
2-H₂SO₄, 3-HNO₃
4-IC₂ 5-NONE

COOLING TEMPL (C)

4-34

3,4 3,4

4

4

4

4

4

4

4

4

4

4

4

Logged By: CRK

Date & Time: 9/29/10

10-8-10 0827

10-8-10 0827

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10-8-10 0827

Vendor: PRISM

PO# ISW01.1913

Preserv: 1-HCL
2-H₂SO₄, 3-HNO₃
4-IC₂ 5-NONE

COOLING TEMPL (C)

4-34

3,4 3,4

4

4

4

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4

Customer to complete all appropriate non-shaded areas.

Analyses Required

16

17

18

19

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25

Customer to complete appropriate columns to right

Seal Specimen Bottle

ID

13

Sample Description or ID

FGD Purge Eff

EQ Tank Eff.

BioReactor 1 Inf

BioReactor 2 Inf

BioReactor 2 Eff

Filter Blk

Metals Trip Blk

Date

Time

Signature

10/10

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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Analytical Laboratory
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#3



Duke Energy Analytical Laboratory

Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-4349

Analytical Laboratory Use Only

ORDER# J10090188

MATRIX: OTHER

Samples
Originating
From

NC
SC

Logged By: CPK

Date & Time: 9/29/10

SAMPLE PROGRAM

Ground

Water

NPDES

Drinking Water

UST

RCRA Waste

Vendor

Cooler Temp (C)

Vendor: PRISM
PO# ISW01.1913

1=HCL
2=H₂SO₄ 3=HNO₃
4=Ice 5=None

MR #

Customer to complete all
appropriate non-shaded areas.

Sampling conducted: 2nd and 4th Monday

16 Analyses
Required

17 Comp.

18 Grab

TDS (PRISM)

Hg - 245.1

Metals*

Se, soluble

1) Project Name: Allen - FGD
Alternative Fuels Test Burn # 1 - Daily

2) Phone No:

2) Client: Don Scruggs, Robbin Jolly,
Ray Lidke, Bill Kennedy

4) Fax No:

5) Business Unit:

6) Process:

Mail Code:

8) Oper. Unit:

9) Res. Type:

10) Resp. Center:

LAB USE ONLY

11 Lab ID

Se Speciation Bottle

ID

13 Sample Description or ID

Date

Time

Signature

2010008581

FGD Purge Eff

10/10

1010

Chris Williams

2010008595

EQ Tank Eff.

10/10

1405

Chris Williams

2010008596

BioReactor 1 Inf

10/10

1412

Chris Williams

2010008597

BioReactor 2 Inf

10/10

1414

Chris Williams

2010008598

BioReactor 2 Eff

10/10

1409

Chris Williams

2010008599

Filter Blk

9/30

1050

R. Harris

2010008600

Metals Trip Blk

9/30

1050

R. Harris

Customer to sign & date below - line from left to right

1) Relinquished By: Chris Williams

Date/Time

10/7/10 1625

2) Accepted By:

Courier

Date/Time

10/7/10

3) Relinquished By:

Courier

Date/Time

10/8/10

4) Accepted By:

R. Harris

Date/Time

10/8/10 0830

5) Relinquished By:

Candy Knox

Date/Time

10-8-10 1200

6) Accepted By:

Dan Mann

Date/Time

10-8-10 1200

7) Relinquished By:

Date/Time

8) Accepted By:

Date/Time

9) Seal/Locked By:

Date/Time

10) Seal/Lock Opened By:

Date/Time

11) Seal/Locked By:

Date/Time

12) Seal/Lock Opened By:

Date/Time

Comments

* Metals=As, Ag, B, Cu, Cr, Ni, Se, Zn

Customer. IMPORTANT!
Please indicate desired turnaround

10-20

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DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT